

CLAIMS:

1. A composition for forming a transparent conducting film, the composition comprising a water-soluble indium compound, a halogen-containing water-soluble organotin compound and a water-soluble organic high molecular compound.
2. The composition according to claim 1, wherein the halogen-containing water-soluble organotin compound is one in which a first endothermic peak temperature in a differential thermal analysis curve is 75°C or higher.
3. The composition according to claim 1, wherein the difference between the first endothermic peak temperature of the water-soluble indium compound and the first endothermic peak temperature of the halogen-containing water-soluble organotin compound in the differential thermal analysis curve is 100°C or less.
4. A solution for forming a transparent conducting film, the solution having the composition of claim 1, 2 or 3 dissolved in water or a solvent comprising water and an organic solvent.
5. The solution according to claim 4, wherein water is present in a ratio of 10 to 100 wt.% based on the total solvent, and the water-soluble organic high molecular compound is present in a ratio of 0.03 to 10 wt.% based on the total solution.

6. The solution according to claim 4 which has a surface tension of 20 to 70 mN/m and a viscosity of 20 mPa·s or less.

7. A method for forming a transparent conducting 5 film, which comprises the steps of
(1) applying the solution of claim 4 onto a substrate, and
(2) firing the coating film.

8. The method according to claim 7, wherein the firing is carried out in an atmosphere which has higher 10 partial oxygen pressure than air in step (2).

9. The method according to claim 7, which further comprises a step of subjecting the film obtained in step (2) to a reducing heat treatment.

10. The method according to claim 7, wherein the 15 solution of step (1) has water in a ratio of 10 to 100 wt.% based on the total solvent, and has the water-soluble organic high molecular compound in a ratio of 0.03 to 10 wt.% based on the total solution.

11. The method according to claim 7, wherein 20 the solution of step (1) has a surface tension of 20 to 70 mN/m and a viscosity of 20 mPa·s or less.